

CLAIMS

1. A linear block copolymer composition comprising from 55 to 95 mass% of a vinyl aromatic hydrocarbon and from 5 to 45 mass% of a conjugated diene as monomer units,
5 characterized in that the linear block copolymer is a mixture of a linear block copolymer having at least three types of polymer blocks with different molecular weights, each comprising a vinyl aromatic hydrocarbon as monomer units and represented by the following formula:

10 S-B-S

(wherein S is a polymer block comprising a vinyl aromatic hydrocarbon as monomer units, and B is a polymer block comprising a conjugated diene as monomer units) and further, (1) the molecular weight distribution (Mw/Mn) of 15 a mixture of the polymer blocks each comprising a vinyl aromatic hydrocarbon as monomer units, is within a range of from 3.35 to 6, and (2) in a gel permeation chromatogram of a mixture of the polymer blocks each comprising a vinyl aromatic hydrocarbon as monomer units,
20 M1/M2 is within a range of from 12.5 to 25, where M1 is the peak top molecular weight corresponding to a peak at which the peak top molecular weight becomes maximum among peaks forming a proportion of the area of at least 30% to the whole peak area, and M2 is the peak top molecular
25 weight corresponding to a peak at which the peak top molecular weight becomes minimum among peaks at which the peak top molecular weight is at most 50,000 and which

form a proportion of the area of at least 20% to the whole peak area.

2. The linear block copolymer composition according to Claim 1, wherein in a gel permeation chromatogram of a mixture of the polymer blocks each comprising a vinyl aromatic hydrocarbon as monomer units, the proportion of the number of moles of S1 to the sum of the numbers of moles of S1 and S2 is within a range of from 5 to 25 mol%, where S1 is a component corresponding to a peak at which the peak top molecular weight becomes maximum among peaks forming a proportion of the area of at least 30% to the whole peak area, and S2 is a component corresponding to a peak at which the peak top molecular weight becomes minimum among peaks at which the peak top molecular weight is at most 50,000 and which form a proportion of the area of at least 20% to the whole peak area.

3. The linear block copolymer composition according to Claim 1 or 2, wherein the peak top molecular weight M2 is within a range of from 4,500 to 20,000.

4. The linear block copolymer composition according to any one of Claims 1 to 3, wherein the peak top molecular weight M1 is within a range of from 90,000 to 200,000.

5. The linear block copolymer composition according to any one of Claims 1 to 4, wherein in a gel permeation chromatogram of the linear block copolymer composition, the molecular weight distribution (Mw/Mn) of a component corresponding to a peak at which the peak top molecular

weight becomes maximum among peaks forming a proportion of the area of at least 30% to the whole peak area, is less than 1.03.

6. The linear block copolymer composition according to
5 any one of Claims 1 to 5, wherein in a gel permeation chromatogram of the linear block copolymer composition, M3/M4 is within a range of from 2.5 to 4.5, where M3 is the peak top molecular weight corresponding to a peak at which the peak top molecular weight becomes maximum among
10 peaks forming a proportion of the area of at least 30% to the whole peak area, and M4 is the peak top molecular weight corresponding to a peak at which the peak top molecular weight becomes minimum among peaks forming a proportion of the area of at least 15% to the whole peak
15 area.

7. The linear block copolymer composition according to any one of Claims 1 to 6, wherein in a gel permeation chromatogram of the linear block copolymer composition, the peak top molecular weight of a component which
20 provides the maximum peak area is within a range of from 120,000 to 250,000.

8. A composition comprising the linear block copolymer composition as defined in any one of Claims 1 to 7 and a thermoplastic resin other than the linear block copolymer
25 composition.

9. The composition according to Claim 8, wherein the mass ratio of the linear block copolymer composition/the

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thermoplastic resin is from 30/70 to 70/30.

10. The composition according to Claim 8 or 9, wherein
the thermoplastic resin is a polystyrene polymer.